



HYDRA PRO  
S.W.L. 6500 LBS @ 40FT

TEAMWORK  
SAFETY FIRST

OKEANOS EXPLORER

OKEANOS EXPLORER

STAR

ExxonMobil

1M08835H4



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GENERAL NOTES

1. THE PURPOSE OF THIS DRAWING IS TO SHOW THE RELOCATION OF THE AFT MASTHEAD LIGHT AND TASK LIGHTS TO ACCOMODATE MODIFICATIONS TO THE MAIN MAST.

2. ABBREVIATIONS USED ON THIS DRAWING ARE IN ACCORDANCE WITH ASME Y14.38 AND AS FOLLOWS:

COLREGS – INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA 1972.

3. TASK LIGHTS ARE MOUNTED P/S ON THE FORWARD MAST PLATFORM TO ENABLE 360° VISIBILITY.

4. AFT MAST HEAD LIGHT IS PLACED BETWEEN TASK LIGHTS, AS ALLOWED IN '72 COLREGS: INTERNATIONAL RULES – ANNEX I 2(f)(ii).

5. PARTIAL TEXT OF COLREGS ANNEX I – POSITIONING AND TECHNICAL DETAILS OF LIGHTS AND SHAPES:

2. VERTICAL POSITIONING AND SPACING OF LIGHTS

(a) ON A POWER-DRIVEN VESSEL OF 20 METERS OR MORE IN LENGTH THE MASTHEAD LIGHTS SHALL BE PLACED AS FOLLOWS:

(i) THE FORWARD MASTHEAD LIGHT, OR IF ONLY ONE MASTHEAD LIGHT IS CARRIED, THEN THAT LIGHT, AT A HEIGHT ABOVE THE HULL OF NOT LESS THAN 6 METERS, AND, IF THE BREADTH OF THE VESSEL EXCEEDS 6 METERS, THEN AT A HEIGHT ABOVE THE HULL NOT LESS THAN SUCH BREADTH, SO HOWEVER THAT THE LIGHT NEED NOT BE PLACED AT A GREATER HEIGHT ABOVE THE HULL THAN 12 METERS;

(ii) WHEN TWO MASTHEAD LIGHTS ARE CARRIED THE AFTER ONE SHALL BE AT LEAST 4.5 METERS VERTICALLY HIGHER THAN THE FORWARD ONE.

(i) WHEN THE RULES PRESCRIBE TWO OR THREE LIGHTS TO BE CARRIED IN A VERTICAL LINE, THEY SHALL BE SPACED AS FOLLOWS:

(i) ON A VESSEL OF 20 METERS IN LENGTH OR MORE SUCH LIGHTS SHALL BE SPACED NOT LESS THAN 2 METERS APART, AND THE LOWEST OF THESE LIGHTS SHALL, EXCEPT WHERE A TOWING LIGHT IS REQUIRED, BE PLACED AT A HEIGHT OF NOT LESS THAN 4 METERS ABOVE THE HULL;

(iii) WHEN THREE LIGHTS ARE CARRIED THEY SHALL BE EQUALLY SPACED.

3. HORIZONTAL POSITIONING AND SPACING OF LIGHTS

(a) WHEN TWO MASTHEAD LIGHTS ARE PRESCRIBED FOR A POWER-DRIVEN VESSEL, THE HORIZONTAL DISTANCE BETWEEN THEM SHALL NOT BE LESS THAN ONE HALF OF THE LENGTH OF THE VESSEL BUT NEED NOT BE MORE THAN 100 METERS. THE FORWARD LIGHT SHALL BE PLACED NOT MORE THAN ONE QUARTER OF THE LENGTH OF THE VESSEL FROM THE STEM.

(b) ON A POWER-DRIVEN VESSEL OF 20 METERS OR MORE IN LENGTH THE SIDELIGHTS SHALL NOT BE PLACED IN FRONT OF THE FORWARD MASTHEAD LIGHTS. THEY SHALL BE PLACED AT OR NEAR THE SIDE OF THE VESSEL.

(c) WHEN THE LIGHTS PRESCRIBED IN RULE 27(b)(i) OR RULE 28 ARE PLACED VERTICALLY BETWEEN THE FORWARD MASTHEAD LIGHT(S) AND THE AFTER MASTHEAD LIGHT(S) THESE ALL-ROUND LIGHTS SHALL BE PLACED AT A HORIZONTAL DISTANCE OF NOT LESS THAN 2 METERS FROM THE FORE AND AFT CENTERLINE OF THE VESSEL IN THE ATHWARTSHIP DIRECTION.

(d) WHEN ONLY ONE MASTHEAD LIGHT IS PRESCRIBED FOR A POWER-DRIVEN VESSEL, THIS LIGHT SHALL BE EXHIBITED FORWARD OF AMIDSHIPS; EXCEPT THAT A VESSEL OF LESS THEN 20 METERS IN LENGTH NEED NOT EXHIBIT THIS LIGHT FORWARD OF AMIDSHIPS BUT SHALL EXHIBIT IT AS FAR FORWARD AS IS PRACTICABLE.

9. HORIZONTAL SECTORS

(b)

(i) ALL-ROUND LIGHTS SHALL BE SO LOCATED AS NOT TO BE OBSCURED BY MASTS, TOPMASTS OR STRUCTURES WITHIN ANGULAR SECTORS OF MORE THAN 6 DEGREES, EXCEPT ANCHOR LIGHTS PRESCRIBED IN RULE 30, WHICH NEED NOT BE PLACED AT AN IMPRACTICABLE HEIGHT ABOVE THE HULL.

(ii) IF IT IS IMPRACTICABLE TO COMPLY WITH PARAGRAPH (b)(i) OF THIS SECTION BY EXHIBITING ONLY ONE ALL-ROUND LIGHT, TWO ALL-ROUND LIGHTS SHALL BE USED SUITABLY POSITIONED OR SCREENED SO THAT THEY APPEAR, AS FAR AS PRACTICABLE, AS ONE LIGHT AT A DISTANCE OF ONE MILE.

REVISIONS

REV	SHT	ZONE	ITEM	DESCRIPTION	DATE	APPD
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REFERENCES

NO	TITLE	DRAWING NO
1	FOREMAST ANTENNA PLATFORM	OE-170-101A
2	ANTENNA ARRANGEMENT, FOREMAST	OE-405-101
3	GENERAL ARRANGEMENT	OE-601-101C
4	NAVIGATION LIGHTS FOUNDATION	OE-422C-02

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
OFFICE OF MARINE AND AVIATION OPERATIONS

ART ANDERSON  
ASSOCIATES

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CONTRACT NO.  
AB133M-05-CQ-1044

TAR NO.  
AAA-051(10)

DSGN  
03/22/10  
E. SNYDER

DWN  
03/24/10  
J. WALKER

CHK  
03/26/10  
E. SNYDER

CHK  
03/26/10  
J. CARLSON

NOAA SHIP

OKEANOS EXPLORER

NAVIGATION LIGHTS  
ARRANGEMENT MOD

SIZE	CAGE CODE	NOAA DRAWING NUMBER	REV
D	OYLJ5	OE-422C-01	-

SCALE:	AS SHOWN	CAD FILENAME	OE-422C-01.dwg	SHT	1	OF	2
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NOAA APPROVAL

PRELIMINARY

DATE: 03/26/10

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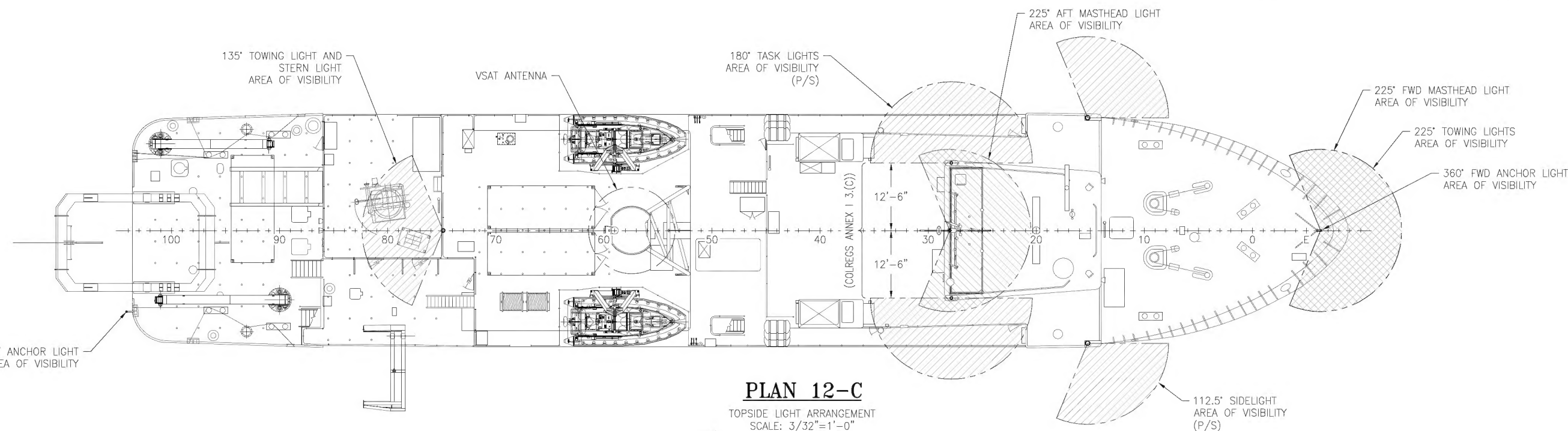
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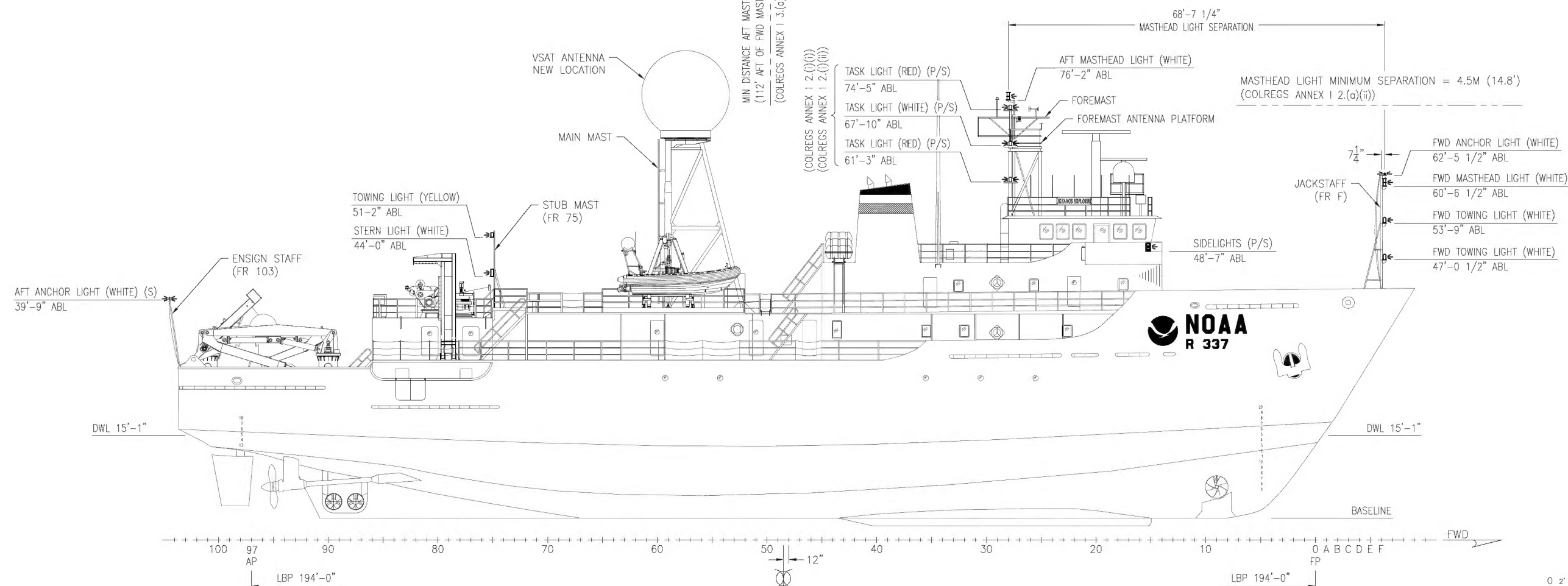
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### PLAN 12-C

TOPSIDE LIGHT ARRANGEMENT  
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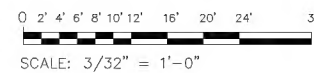


### ELEVATION 12-A

OUTBOARD PROFILE  
SCALE: 3/32"=1'-0"

# PRELIMINARY

DATE: 03/26/10



SIZE	CAGE CODE	NOAA DRAWING NUMBER	REV
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SCALE: AS SHOWN		CAD FILENAME: OE-422C-01.dwg	SHT 2 OF 2

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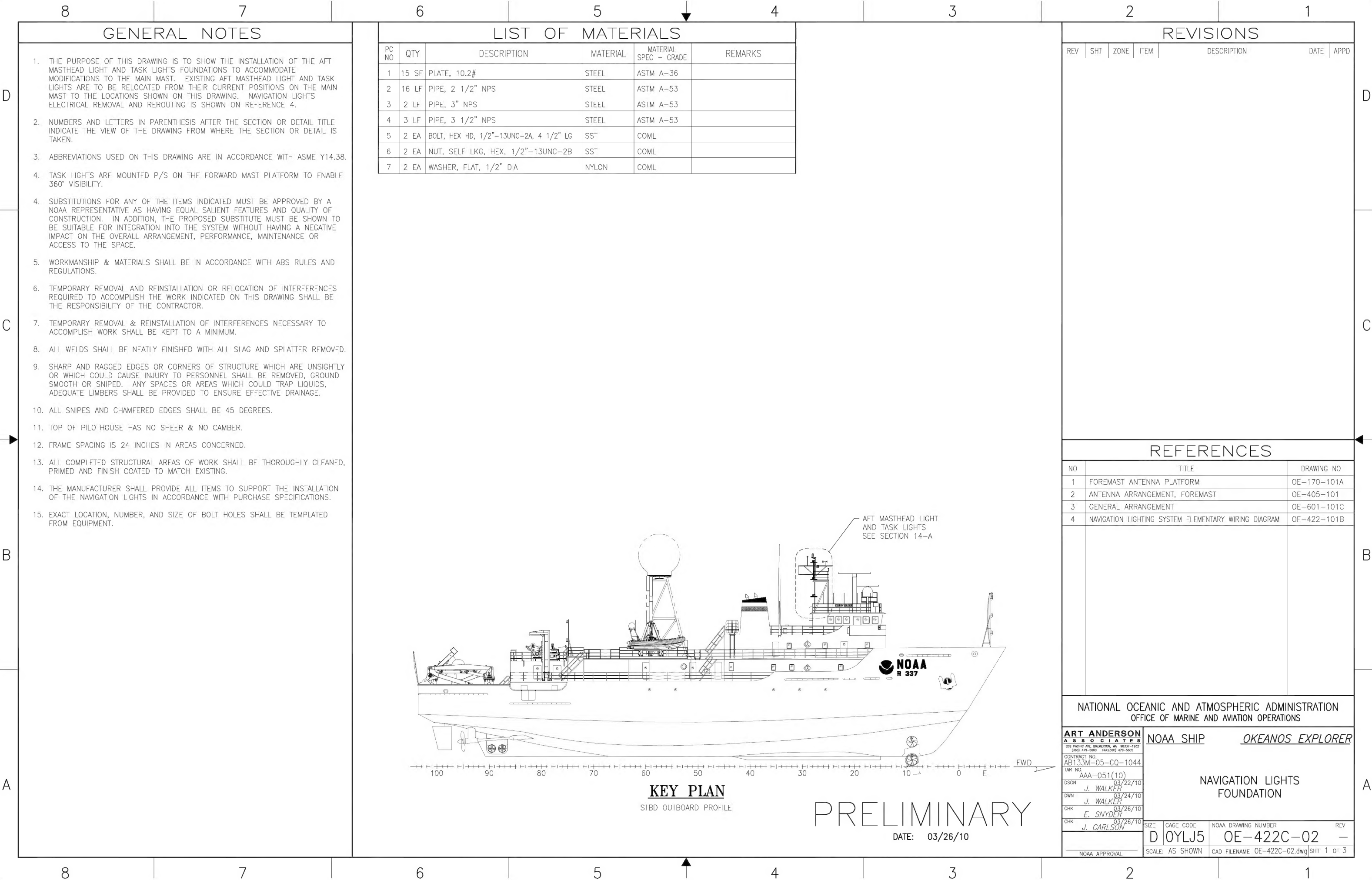
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B

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NEW UPPER TASK  
LIGHT FOUNDATION  
SEE DETAIL 23-C

AM-FM-TV ANTENNA  
TO BE RELOCATED  
INBOARD

RELOCATED  
AFT MASTHEAD LIGHT

10-A

WIND SPEED DIRECTION UNIT  
TO BE RELOCATED

FOREMAST

FOREMAST ANTENNA PLATFORM

RELOCATED TASK LIGHT  
(TYP 6 PLACES)

NEW MIDDLE TASK  
LIGHT FOUNDATION  
SEE DETAIL 23-B

AFT SUPPORT  
STANCHION

NEW LOWER TASK  
LIGHT FOUNDATION  
SEE DETAIL 23-A

PILOTHOUSE TOP  
55'-0" ABL

10-A

**SECTION 14-A**

FOREMAST ANTENNA PLATFORM  
FR 27, LKG AFT  
SCALE: 1/2"=1'-0"

D

C

B

A

RELOCATED  
AFT MASTHEAD LIGHT

NEW AFT MASTHEAD LIGHT FDN  
SEE DETAIL 18-B

FOREMAST

FOREMAST ANTENNA  
PLATFORM

21'-2"

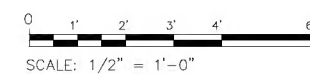
PILOTHOUSE TOP  
55'-0" ABL

**ELEVATION 10-A (14-A)**

FOREMAST ANTENNA PLATFORM  
STBD SIDE, LKG PORT  
SCALE: 1/2"=1'-0"

# PRELIMINARY

DATE: 03/26/10



SIZE	CAGE CODE	NOAA DRAWING NUMBER	REV
D	OYLJ5	OE-422C-02	-
SCALE: 1/2"=1'-0"		CAD FILENAME OE-422C-02.dwg	SHT 2 OF 3

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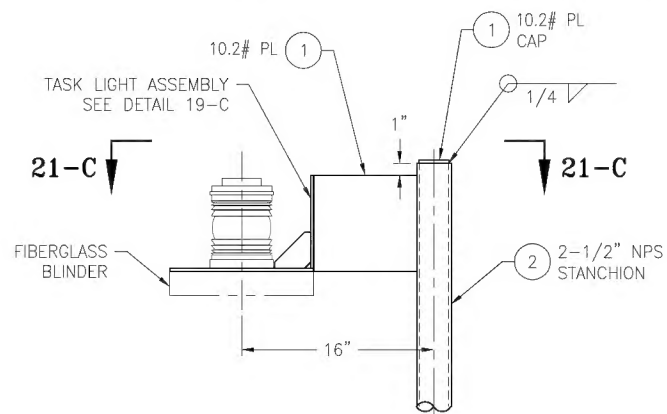
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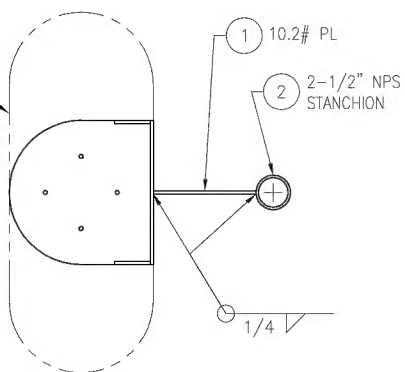
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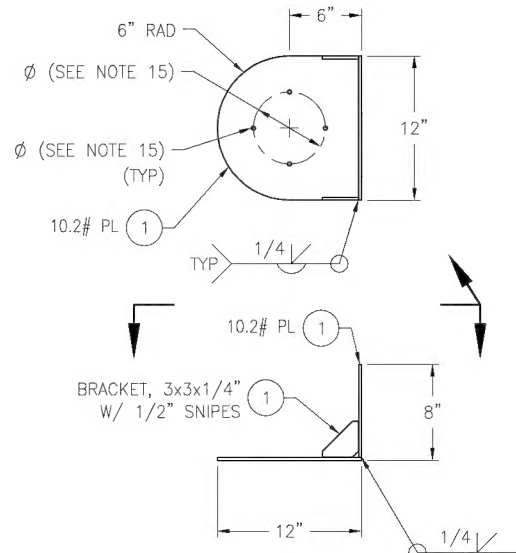
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**SECTION 23-C (14-A)**

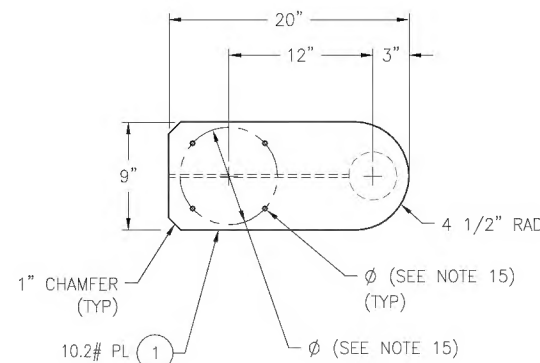
UPPER TASK LIGHT FOUNDATION INSTALLATION  
STBD SIDE SHOW, PORT SIDE SIMILAR  
SCALE: 1 1/2"=1'-0"

**SECTION 21-C (23-C)**

UPPER TASK LIGHT FOUNDATION INSTALLATION  
STBD SIDE SHOW, PORT SIDE SIMILAR  
SCALE: 1 1/2"=1'-0"

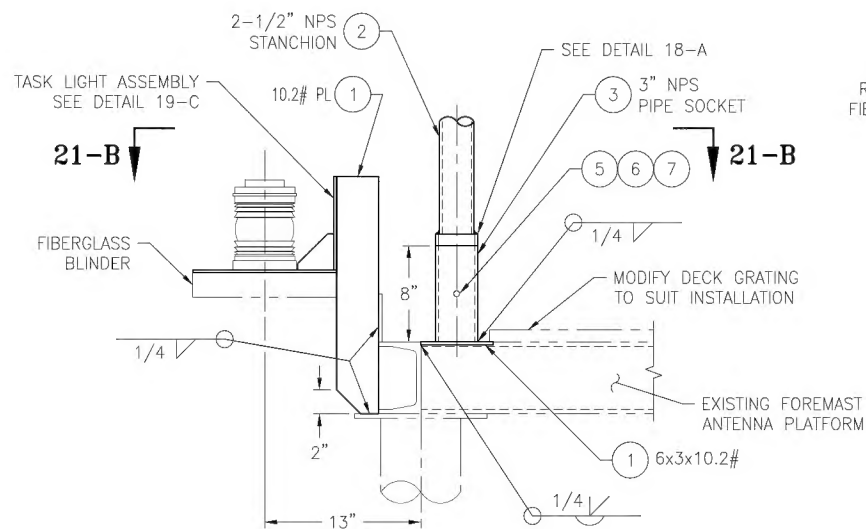
**DETAIL 19-C (23-A, 23-B, 23-C)**

TASK LIGHT FOUNDATION ASSEMBLY  
SCALE: 1 1/2"=1'-0"

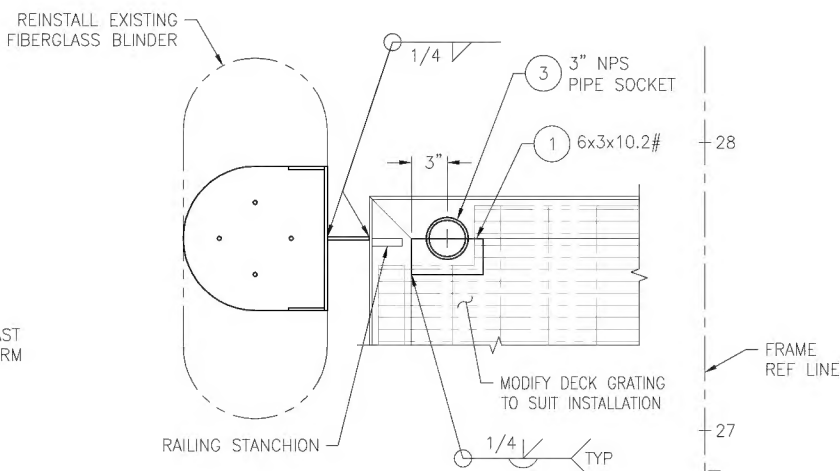
**DETAIL 18-B (10-A)**

AFT MASTHEAD LIGHT FOUNDATION ASSEMBLY  
SCALE: 1 1/2"=1'-0"

C

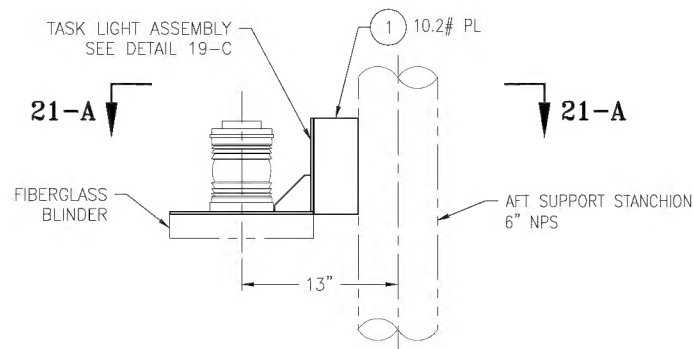
**SECTION 23-B (14-A)**

MIDDLE TASK LIGHT FOUNDATION INSTALLATION  
STBD SIDE SHOW, PORT SIDE SIMILAR  
RAILING NOT SHOWN FOR CLARITY  
SCALE: 1 1/2"=1'-0"

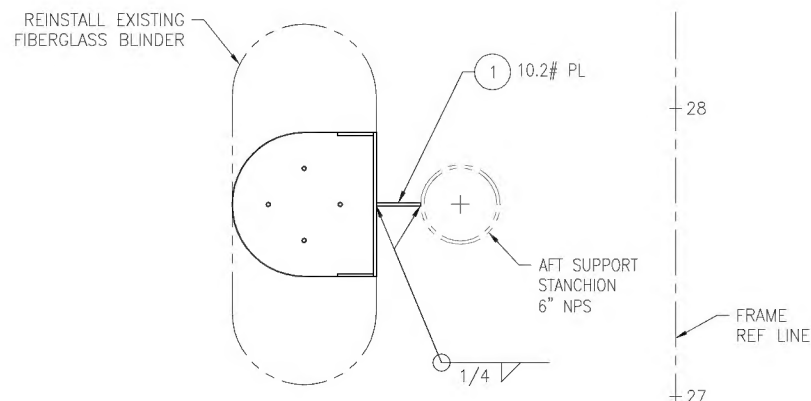
**SECTION 21-B (23-B)**

MIDDLE TASK LIGHT FOUNDATION INSTALLATION  
STBD SIDE SHOW, PORT SIDE SIMILAR  
SCALE: 1 1/2"=1'-0"

B

**SECTION 23-A (14-A)**

LOWER TASK LIGHT FOUNDATION INSTALLATION  
STBD SIDE SHOW, PORT SIDE SIMILAR  
SCALE: 1 1/2"=1'-0"

**SECTION 21-A (23-A)**

LOWER TASK LIGHT FOUNDATION INSTALLATION  
STBD SIDE SHOW, PORT SIDE SIMILAR  
SCALE: 1 1/2"=1'-0"

PRELIMINARY

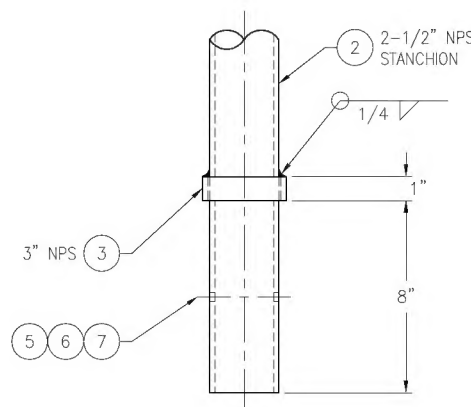
DATE: 03/26/10

0 2" 4" 6" 12" 2"  
SCALE: 1 1/2" = 1'-0"

0 2" 4" 6" 12"  
SCALE: 3" = 1'-0"

**DETAIL 18-A (23-B)**

STANCHION STOP  
SCALE: 3"=1'-0"



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SIZE	CAGE CODE	NOAA DRAWING NUMBER	REV
D	OYLJ5	OE-422C-02	-
SCALE: AS SHOWN	CAD FILENAME	OE-422C-02.dwg	SHT 3 OF 3